of both sexes are generally equal. This circumstance must, of course, be imputed to the earlier approach of puberty in the female.

Some of the other conclusions of M. Quetelet are curious. Man attains his maximum weight about the age of 40, and begins to lose weight very sensibly towards 60. Woman is not at her maximum weight till towards 50. Between 18 and 40, the period of her fecundity, she does not acquire any very perceptible increase of weight.

Both man and woman, at the period of their complete development, weigh almost exactly twenty times as much as they did at birth. Their height at the same period is about 3¼ times what it was at birth.

In their old age, both man and woman have lost 6 or 7 kilogrammes of their weight, and 7 centimetres of their height.

During the growth of both sexes, it may be stated that the squares of the weights are as the fifth powers of the heights.

After the development is complete in both sexes, the weights are very nearly as the squares of the heights: whence it may be inferred that the increase in the height is greater than the transverse increase of the body, comprehending both its breadth and depth.

The mean weight of an individual, without reference to sex or age, is 44·7 kilogrammes, (91·336lbs;) or, if sex be taken into account, it is 47 kilogrammes, (96·015lbs.) for men, and 42·5 kilogrammes, (86·831lbs.) for woman.

According to the observations of the late M. Tenon, of the Institute, [which observations are given by way of supplement to M. Quetelet's paper,] the Laplanders and the Patagonians present the two extremes of man's stature. The former commonly measure from 4 feet to 4 feet 6 inches, 4 feet three being their mean height, and their women are scarcely less. The Patagonians measure from about 5 feet 6 inches to 6 feet 3, and their women are generally 7 or 8 inches shorter.

The tallest men in Europe, M. Tenon thought, were in Saxony. But he added, that climate or locality had less to do with the stature of men than their race or variety. Close by the Saxons, for example, we find the Silesians, who are a short people; and the Patagonians are the Pecherais, a people much inferior in height. In Savoy also, and particularly about *La Haute-Maurienne*, extreme varieties have been noticed. Yet it can scarcely be doubted but that the climate, the nature of the soil, the sort of government, the state of civilization, and the comforts, or the contrary, of each people, have such influence in determining a national stature. This position has been strongly urged by M. Villermé, in his *Memoire sur la Taille de l'Homme*; and very interestingly stated by W. F. Edwards, in his *Caractères Physiologiques des Races.—Lond. Med. Gaz. September*, 1833.

MISCELLANEOUS.

38. *On the Transmission of Medicaments into the System by Means of Electro-Galvanism.*—It was stated some time since in one of the English journals, that by the influence of electricity the vaccine virus had been conducted along a wire, and the disease communicated from one person to another as effectually as when vaccination is performed in the ordinary manner. This statement strongly excited our interest at the time, and we should have then called the attention of our readers to it had it not been coupled with the startling assertion that *intermittent fever*, during the hot stage, had been communicated by the same means to a perfectly healthy person. This last assertion evidently proved too much, and so completely destroyed all the confidence we were disposed to repose in the first, that it appeared to us expedient to wait for some confirmation of the statement, rather than give currency to it by repeating what might prove to be only one of the thousand baseless assertions constantly put forth by careless observers.

It appears from an editorial article in a late number of the *Gazette Médicale de Paris*, for July 20th, 1833, that Dr. Fabre-Palaprat, previously to the publication of the statements just alluded to, had communicated to one of the Parisian societies a mass of observations relative to the property which he has found the electric fluid to possess, of conducting through our organs a number of active medicaments. It is known that electricity given off from a galvanic pile, has the power of decomposing most bodies, and of transferring their elements to one or the other of its poles. This principle or power is the basis of the observations about to be detailed. Dr. Fabre-Palaprat, to whom science is indebted for numerous interesting experiments upon this subject, when he wishes to tranfer a medicinal substance to any organ makes use of the voltaic pile, to each pole of which conductors are attached, which serve to transmit the electric current, and at the same time to decompose the substance upon which this current acts. One of the poles is made to communicate with the substance we wish to transfer, the other with a needle, (formed like that used in acupuncture, of steel, silver, or platina, and of the same shape,) which is inserted into the part of organ to which we wish the medicine applied; for example, the thyroid gland or stomach. In a short time the medicine, let us suppose it to be *iodine* or *quinine*, passes with great rapidity, by some unknown route, to that part of the thyroid gland or stomach which is in communication with the point of the needle. This may be repeated, or the operation prolonged until a sufficient quantity of the iodine or quinine has been applied to the part. In order to prove that this transmission of the substance takes place, cases of goitre, and intermittent fever are cited, in which a cure of the disease took place from the operation. But it might be said, that in these cases a cure was done, not to the application of the medicine alone, but to other circumstances; as for instance, to the electro-galvanism employed, as this is known to exercise a powerful influence over the animal economy! In order to set at rest this point, Dr. F. P. in conjunction with the editor of the *Gazette Médicale*, undertook a series of experiments. The following is the manner in which they proceeded. Having prepared a vase of porcelain filled with a solution of the hydriodate of potash, a platina thread was so arranged that whilst one end was plunged in the liquid, the other communicated with the copper pole of a pile of fifty large plates. Another wire of the same metal was made to communicate by one of its ends with the zinc pole of the pile, and by the other with a solution of starch contained in a vase similar to the first. Finally, in order to complete the circle, a finger of the right hand of the operator, was plunged into the iodine solution, and one of the left placed in contact with the platina plate. (We should observe that here, that portion of the conducting circle which passed from the body of the operator to the pile was perfectly dry.) In a few seconds after the circle was formed, in the manner described, several points of a violet tint were observed to form upon the thread which communicated with the starch. These points gradually enlarged, and after a time united one with another, until a complete line of a violet hue was formed from the end of the thread to the hand. The appearance of this peculiar colour, (violet,) left no doubt whatever as regards the translation of the iodine from the extremity of the conductor attached to the copper pole, to that of the zinc. The following is the chemical explanation of this phenomenon; at the moment the two electric currents disengaged from the two poles of the pile meet, the hydriodate of potash placed in contact with the copper pole is decomposed; the hydrogen is given off; the potash becomes dissolved in the water of the solution, and the iodine powerfully attracted by the positive current, passes rapidly to the zinc pole, as is shown by the violet colour of the solution of starch, (the best test for iodine,) placed in communication with this pole. The iodine was selected in these experiments, on account of its presence in extremely minute portions even, being so readily discovered by a solution of starch. Reasoning from analogy, however, there can be no doubt, but that a similar translation of any other body, subject to the action of electricity, would also take place, provided we took the precaution of placing the organ to receive it in communication with that pole

of the pile, towards which the electro-chemical disposition of the substance would cause it to proceed. We here repeated these experiments with the iodine, and failed in producing similar effects, notwithstanding every thing seemed to be arranged as it should be. Dr. F. P. has also frequently met with the same results. This failure, however, is but temporary, for with a little patience, and by frequently repeating the operation, we are generally rewarded with success. Dr. F. P. attributes this irregularity of action to the impermeability of the skin of the operator during the operation. If, as he supposes this irregularity is dependent upon the impermeable nature of the cutaneous tissue of the operator, it is evident that by the employment of metallic needles, this irregularity could not take place, for the conducting circle is here formed of inert matter; the conducting power of which is not affected by any accidental circumstance. However, this may be, there rests not a doubt of the possibility of causing the translation of certain remedies to our organs through the medium of an electro-galvanic current, although we are as yet entirely ignorant of the route of this transmission, as well as of the mechanism of the causes which put it in play. Before closing this notice it may be as well to mention certain precautions which we should take in order to insure the success of the operation. In order that decomposition may take place, it is first necessary that the pile be possessed of a certain degree of energy, and further, that the electric current pass uninterruptedly through the different pieces of which the pile consists. These two indications are fulfilled, the first by multiplying with the number and the surface of the metallic parts of which the pile is formed, (of course its entire force will be in proportion to the number of the plates and the extent of their surfaces;) the second by interposing between the plates some body which is a good conductor of electricity. Water for instance, or what is still better, water containing a certain quantity of some salt or acid in solution. Dr. Fabré-Palaprat has also observed, that the decomposed bodies were conducted along a moist conductor only, so that if a part of the conductor of the pile be dry, and the remainder sufficiently moist, the substance experimented upon does not traverse the former, but only the latter. It may be remarked en passant, that as all those portions of the conducting circle, formed either by the needles or by the skin alone, are supposed to be perfectly dry; that there would be but little possibility of the substance operated with, passing in the direction of this portion; for as we have mentioned, this transmission takes place only when the conductor is moist. But it is positive that the electric current circulates through the different organs into which the needles are inserted, as far even as the extremities of the needles. We may account for the occurrence of this phenomena in the following manner. The whole tract of the needles is imbued with a sufficient degree of moisture, derived from the fluids which circulate in all the tissues, and which are saline or alkaline in their nature, to cause an attraction of the electric current towards them. This moisture, moreover, from its alkaline properties is one of the most powerful conductors we could possibly make use of. Whenever we wish to operate with a substance of a compound nature, an acid for example, we should make use of a pile of feeble energy, that is to say one composed of but few plates, and these of a small size. If we use a powerful one the substance will be decomposed, and we transmit not the substance itself, but its elements. We may operate in this way when we wish to destroy by degrees an exuberant tissue, by means of the nitrate of potash. A simple current would be sufficient to disengage the acid from its base, and cause it to pass over to the part operated upon. Another inconvenience likewise attends the application of too powerful a current. The quantity of electricity that passes over in this case, may be sufficient to communicate a fatal shock to the part; and if needles are used, their extremities may be heated to incandescence, and thus cauterize more or less deeply the parts into which they are inserted. Dr. Fabré-Palaprat, aware of this, has frequently applied a strong electric current to the needles inserted into a part in which he wished to produce the effects of a moxa.

39. *Influenza at Berlin.*—Dr. Hufeland, in the March number of his Journal, alludes to the then prevailing epidemic influenza, or grippe, which subsequently, as all our home-readers well know, extended itself to this country, and spread like a broad sheet over almost every hole and corner of it. The venerable German tells us that, since the year 1782, no epidemic has been known to seize so many persons; in many places, more than one-half of the inhabitants were affected with it. Both arose in Russia, and followed a south-westerly direction; both made a sudden invasion on a vast number of people in a place at the same time; both were of short duration, and were comparatively little dangerous; both affected chiefly the mucous membranes and nervous system; and in both blood-letting and depletory measures were hurtful. In Petersburg, there were at least 100,000 invalids; in Memel, whose population does not exceed 10,000, there were 8,000; and in Berlin, at the date of Hufeland's writing, upwards of 50,000 had been seized. It may be considered as a catarrhal fever, accompanied with, and followed by, extraordinary depression of the nervous energy for several weeks after the pyrexia has ceased. Mild antiphlogistic treatment and gentle diaphoretics have, in most cases, been sufficient to cure it, even in this "*blood-thirsty age*" of ours.

A correspondent from Konigsberg adds a few interesting remarks on the epidemic, as witnessed by him there. The winter had been unusually healthy up to the end of the first, or the beginning of the second week in March. The writer, as well as some other physicians, had, indeed, remarked that there had been, for some time previous, a tendency in most febrile complaints to a nervous or adynamic type; and this is quite in accordance with the history of other epidemics, as, for example, of the cholera: the influence of the stormy cloud is felt, before it breaks in its full sweeping force. The symptoms were at first smart pyrexia, with very severe head-ache, sneezing, sore throat, and violent cough, which was generally dry and harsh, at least in the beginning; the skin moist, and the tongue white. The feelings of general pain, weakness, and great depression of nervous power, were very remarkable. The fever generally abated in three or four days, but the patients were long of recovering their strength. The mortality occasioned by the disease was very trifling, if we consider the number of patients, and occurred chiefly among children, in whom bronchitis was developed. Almost every one in Konigsberg was affected with it, in a greater or less degree; some, indeed, very mildly, but still they had catarrhal symptoms. During its prevalence, other diseases were arrested, and seemed to slumber for the time; the sick lists presented nothing but influenza —influenza!! Commerce was frequently suspended, and churches had no clergymen to officiate in them. In the course of the second week, the disease became less severe; in some the fever was absent—in others the head-ache, or the sore-throat, or the cough, and so forth; but such patients were often much longer indisposed than those who had sustained a smarter attack during the first week; whether this arose from their taking less care of themselves, or whether the "potentia nociva" required a certain time for its maturation in, and expulsion from the system, we cannot say. In the third week, the number of cases was very much diminished, and so disarmed now was the disease of its violence, as to receive the appellation of "grippine," a diminutive of "grippe;" in the fourth week, scarcely any new cases were seen. The mortality may be estimated by the following table:—We should premise that the average weekly mortality at Konigsberg is from 40 to 50 in summer, and from 50 to 60 in winter.

Deaths from 8th to 15th March - - - -	43
——— from 15th to 22d - - - -	72
——— from 22d to 29th - - - -	105

The last is a greater number than has been known for many years, except when the cholera was raging. During the epidemic influenza of 1831, the highest number of deaths in a week was 96.—*Med. Chirurg. Rev. Oct.* 1833.